CELLULASE (endo-β-GLUCANASE) from T. maritima (Lot 100201c)

Recombinant - Thermostable
E-CEL™ 04/17
(EC 3.2.1.4) 4-beta-D-glucan 4-glucanohydrolase
CAZy: GH Family 5

PROPERTIES

1. ELECTROPHORETIC PURITY:
   - Single band on SDS-gel electrophoresis (MW ~ 38,200)
   - Single major band on isoelectric focusing (pI ~ 6.2)

2. SPECIFIC ACTIVITY:
   245 U/mg protein (on CM-Cellulose 4M) at pH 6.0 and 80°C
   ~ 53 U/mg protein (on CM-Cellulose 4M) at pH 6.0 and 40°C

   One Unit of cellulase activity is defined as the amount of enzyme required to release
   one μmole of glucose reducing-sugar equivalents per minute from CM-Cellulose 4M
   (10 mg/mL) in sodium phosphate buffer (100 mM) pH 6.0.

3. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES:

<table>
<thead>
<tr>
<th>Substrate</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CM-Cellulose 4M</td>
<td>100</td>
</tr>
<tr>
<td>Carob Galactomannan (low viscosity)</td>
<td>~ 2.5</td>
</tr>
<tr>
<td>Wheat Arabinoxylan</td>
<td>&lt; 0.009</td>
</tr>
<tr>
<td>p-NP-β-D-glucoside</td>
<td>&lt; 0.007</td>
</tr>
</tbody>
</table>

Action on polysaccharide and p-NP substrates was determined at final substrate
concentrations of 5 mg/mL and 5 mM, respectively, in sodium phosphate buffer
(100 mM), pH 6.0 at 40°C.

4. PHYSICOCHEMICAL PROPERTIES:
   pH Optima: 6.0
   pH Stability: 3.0 - 9.0 (> 75% control activity after 24 hours at 4°C)
   Temperature Optima: 80°C (10 min. reaction)
   Temperature Stability: up to 80°C (> 90% control activity after 15 min.)

5. STORAGE CONDITIONS:
   The enzyme is supplied as an ammonium sulphate suspension in 0.02% (w/v) sodium
   azide and should be stored at 4°C. For assay, this enzyme should be diluted in sodium
   phosphate buffer (100 mM), pH 6.0 containing 1 mg/mL BSA. Swirl to mix the
   enzyme immediately prior to use.